

Remarks

Accompanying this response is a Request for Continued Examination (RCE). Claims 1-6 are pending and stand rejected as obvious from the teachings of Pugh in view of Liang (claims 1-5), or Pugh in view of Liang and Dowling (Claim 6). For the reasons given below, applicants respectfully disagree and request reconsideration.

Claim 1 is directed to a method of detecting an open winding condition in a motor which in part requires "measuring a winding voltage, a winding current and a motor speed," and "calculating a residue voltage for the winding, the residue voltage equaling the difference between a measured voltage drop across the winding and a calculated voltage drop for a non-open winding condition as a function of the measured winding current and motor speed." The latest Office action correctly states that this is not taught by Pugh (nor for that matter, is it taught by the Dowling reference cited against claim 6). But the Office action further states that this is taught by Liang. Applicants respectfully disagree.

The Examiner cites column 4, lines 27-49 as disclosing measuring a winding current and a motor speed and calculating a voltage drop for a non-open winding condition as a function of the measured winding current and motor speed. But Liang is directed to an electrical machine drive system that is "simulated with a circuit simulator to model normal operation, fault modes, ..." *The Abstract*. And the cited passage makes clear that it is referring to calculations that are performed "for each simulation step." *Col. 4, lines 28-29 and line 35. (See also, col. 4, lines 31-32 which describes retrieving the winding current from the simulator)*. Thus, Liang does not teach or suggest "measuring a winding voltage, winding current and a motor speed" as required by claim 1, and consequently also fails to teach or suggest "calculating a residue voltage for the winding, the residue voltage equaling the difference between a measured voltage drop across the winding and a calculated voltage drop for a non-open winding condition as a function of the measured winding current and motor speed." Quite simply, simulating circuit values by means of calculations based on a circuit simulator as in Liang is not the same thing at all as measuring such motor values as is required by claim 1.

Thus, neither Pugh nor Liang, separately or together, teaches or suggests the requirements of claim 1. Claim 1 is therefore allowable; reconsideration and allowance are respectfully requested. Claim 2 depends from claim 2 and is allowable for the same reasons. Independent claim 3 is similar to claim 1 in containing language requiring measurement of motor values and is allowable for the same reasons. Claims 4-6 depend from claim 3.

Conclusion

Applicants believe that no extension of time is required; however, this conditional petition is made to provide for the possibility that the applicant has inadvertently overlooked the need for an extension of time. If any additional fees are required for the timely consideration of this application, please charge deposit account number 19-4972. A check for the amount of \$790.00 is enclosed for the Request for Continued Examination.

It is submitted that all the claim rejections have been addressed and that all of the pending claims are now in a condition for allowance. Reconsideration of the application and issuance of a notice of allowance are respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is invited to call applicants' attorney at the telephone number listed below.

Respectfully submitted,



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